

WHAT IS CLAIMED IS:

1. An ignition coil device mounted in a plug hole member while forming internal space with the plug hole member, comprising:

a primary spool; and

a primary coil wire that is wound around an outer surface of the primary spool,

wherein at least a given portion of the outer surface of the primary spool is formed of crystalline resin, wherein the given portion fluidly communicates with the internal space.

2. The ignition coil device of Claim 1, wherein the primary spool is formed of the crystalline resin.

3. The ignition coil device of Claim 1, further comprising:

a peripheral core provided as surrounding the primary coil wire,

wherein an outer surface of the peripheral core is exposed towards the internal space, and

wherein an inner surface of the peripheral core and the outer surface of the peripheral core fluidly communicate with each other.

4. The ignition coil device of Claim 1,

wherein the crystalline resin includes at least one of

PPS, PBT, SPS, and PET.

5. The ignition coil device of Claim 4,
wherein the crystalline resin is PPS and the primary
spool is formed of the PPS.

6. The ignition coil device of Claim 4,
wherein the crystalline resin is PBT.

7. The ignition coil device of Claim 4,
wherein the crystalline resin is SPS and the primary
spool is formed of the SPS.

8. The ignition coil device of Claim 4,
wherein the crystalline resin is PET.

9. The ignition coil device of Claim 1,
wherein the crystalline resin has a crystallinity degree
between 20% and 80%.

10. The ignition coil device of Claim 1,
wherein the crystalline resin has a crystallinity degree
between 30% and 80%.

11. The ignition coil device of Claim 1, further
comprising:

a high voltage tower provided closer, than the primary

spool, to a bottom of the plug hole member,

wherein at least a certain portion of a surface of the high voltage tower is formed of the crystalline resin, wherein the certain portion fluidly communicates with the internal space.

12. The ignition coil device of Claim 11,

wherein the high voltage tower is formed of the crystalline resin.

13. The ignition coil device of Claim 11,

wherein the high voltage tower is formed as being integrated with the primary spool.

14. An ignition coil device mounted in a plug hole member, comprising:

a secondary spool;

a secondary coil wire that is wound around an outer surface of the secondary spool; and

a high voltage tower provided closer, than the secondary spool, to a bottom of the plug hole member, wherein the high voltage tower covers a bottom of the secondary spool,

wherein a linear expansion coefficient of resin of which the secondary spool is formed is larger than a linear expansion coefficient of resin of which the high voltage tower is formed.